

Appln. No. 09/966,495

Attorney Docket No. 10541-281

I. Amendments to the Claims

1. (Previously Presented): A method for constructing an illuminating and reflecting apparatus, said method comprising the steps of:

providing a layered metal substrate with an aluminum metal layer positioned between a first and a second copper layer;

removing a defined area of said at least one copper layer to form a reflective portion within said area; and

providing a localized light source positioned to allow light to reflect off of said reflective portion.

2. (Previously Presented): The method of claim 1, further comprising the step of removing an area of said aluminum metal layer such that a non-planar surface is formed in said aluminum metal layer.

3. (Original): The method of claim 2, further comprising the step of removing a defined area of at least one copper layer such that an opening is defined in said layered metal substrate.

4. (Original): The method of claim 3, further comprising the step of coating said reflective portion with a substance to provide specific reflectivity levels.

5. (Original): The method of claim 3, further comprising the step of providing a transparent substrate positioned on said first copper layer.

6. (Original): The method of claim 3, further comprising the step of providing a reflective substrate positioned on said second copper layer.



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7. (Previously Presented): A method for forming a reflective aperture in a circuit board for providing illumination in automotive applications, said method comprising the steps of:

providing a layered metal substrate having a top metal layer, a middle metal layer, and a bottom metal layer;

removing at least a top metal layer of said layered metal substrate to form a reflective area; and

providing a localized light source positioned so as to allow light to reflect off of said reflective area.

8. (Previously Presented): The method of claim 7, further comprising the step of defining a non-planar aperture in the middle metal layer of said layered metal substrate.

9. (Previously Presented): The method of claim 8, further comprising the step of defining an aperture in the bottom metal layer of said layered metal substrate aligned with said non-planar aperture in said middle layer.

10. (Previously Presented): A method for forming a reflective aperture in a circuit board for providing illumination in automotive applications, said method comprising the steps of:

providing a layered metal substrate having a top metal layer, a middle metal layer, and a bottom metal layer;

applying a layer of masking material on a surface of a top metal layer of said layered metal substrate;

exposing said layered metal substrate to an etching process;

removing said masking material from said top metal layer of said layered metal substrate to expose reflective areas of said layered metal substrate; and

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providing a localized light source positioned so as to allow light to reflect off of said reflective area.

11. (Previously Presented): The method of claim 10, further comprising the steps of:

applying a layer of masking material on a surface of an aluminum metal layer;

exposing said layered metal substrate to an aluminum etching process; and

removing said masking material from said aluminum metal layer.

12. (Previously Presented): The method of claim 10, further comprising the step of defining a non-planar aperture in the middle metal layer of said layered metal substrate.

13. (Previously Presented): The method of claim 12, further comprising the step of defining an aperture in a bottom layer of said layered metal substrate aligned with said non-planar aperture in said middle metal layer.

14. (Previously Presented): A reflective circuit board comprising:

a substrate comprised of a aluminum metal layer positioned between two layers of copper;

at least one exposed area of reflective aluminum; and

a localized light source positioned to provide illumination of said exposed aluminum.

15. (Previously Presented): The reflective circuit board of claim 14, further comprising a non-planar aperture defined in said aluminum metal layer.

16. (Original): The reflective circuit board of claim 15, further comprising an aperture defined through all of said layers of said substrate.

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17. (Previously Presented): The reflective circuit board of claim 15, further comprising a reflective coating on said non-planar surfaces of said aluminum metal layer.

18. (Original): The reflective circuit board of claim 16, wherein said localized light source is substantially aligned with said aperture.

19. (Original): The reflective circuit board of claim 18, further comprising a layer of reflective substrate over said aperture opposite said localized light source.

20. (Previously Presented): The reflective circuit board of claim 14, further comprising a layer of transparent substrate over said at least one layer of exposed area of reflective aluminum.

21. (Previously Presented): The method of claim 1, further comprising the step of removing an area of said aluminum metal layer such that a non-planar surface is formed in said aluminum metal layer, after removing the defined area.

22. (Previously Presented): The method of claim 7, further comprising the step of defining a non-planar aperture in the middle metal layer of said layered metal substrate, after removing the at least top metal layer.

23. (Previously Presented): The method of claim 10, further comprising the step of defining a non-planar aperture in the at least one layer of said layered metal substrate, after exposing said layered metal substrate to an etching process.

24. (New): The method according to claim 8, further comprising the step of providing a reflective coating on said non-planar aperture.



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25. (New): The method according to claim 12, further comprising the step of providing a reflective coating on said non-planar aperture.



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